

## CLAIMS

What is claimed is:

1. A human machine interface (HMI) rendering system, comprising:  
a processing component that analyzes information relating to a current state of parameters in connection with a human machine interface (HMI); and  
a rendering component that automatically configures the HMI to function in accordance with a predefined protocol.
2. The HMI rendering system of claim 1, employed in an industrial automation environment.
3. The HMI rendering system of claim 1 is a computer-implemented software application.
4. The system of claim 1, the processing component further comprising an artificial intelligence component that processes parameters associated with an industrial automation environment.
5. The system of claim 4, the artificial intelligence component comprises a classifier.
6. The system of claim 5, the classifier is explicitly trained.
7. The system of claim 5, the classifier is implicitly trained.
8. The system of claim 1, the rendering component further comprising an artificial intelligence component to facilitate rendering a HMI based at least upon the predefined protocol.

9. The system of claim 8, the artificial intelligence component comprises a classifier.
10. The system of claim 8, the classifier is explicitly trained.
11. The system of claim 8, the classifier is implicitly trained.
12. The system of claim 1, the predefined protocol being based at least in part upon zone of operation, user, and extrinsic data.
13. The system of claim 12, wherein the predefined protocol is further based upon at least one of:
  - zones of operation;
  - type of equipment being employed;
  - equipment being monitored;
  - user proximity to the zone;
  - hierarchy of users within the zone;
  - context of the operating environment;
  - network conditions;
  - security;
  - security levels;
  - authentication; and,
  - priorities associated with various potential user actions.
14. The system of claim 5, the classifier infers a desired HMI configuration.
15. The system of claim 14, the classifier employs a utility analysis as to determining a desired configuration.

16. The system of claim 1, further comprising a history component that stores HMI renderings.

17. A method for rendering a human machine interface (HMI), comprising:  
processing information relating to a current state of parameters in  
connection with a human machine interface (HMI); and,  
rendering a human machine interface automatically in accordance with a  
predefined protocol.

18. The method of claim 17, employed in an industrial automation environment.

19. The method of claim 17, being effectuated by a computer-implemented software application.

20. The method of claim 17, further comprising employing artificial intelligence techniques to facilitate processing parameters associated with an operating environment.

21. The method of claim 20, further comprising employing a classifier.

22. The method of claim 21, further comprising training the classifier explicitly.

23. The method of claim 21, further comprising training the classifier implicitly.

24. The method of claim 17, further comprising employing artificial intelligence techniques to facilitate rendering a HMI based at least upon a predefined protocol.

25. The method of claim 24, further comprising employing a classifier.
26. The method of claim 25, further comprising training the classifier explicitly.
27. The method of claim 25, further comprising training the classifier implicitly.
28. The method of claim 17, further comprising employing a predefined protocol based at least in part upon zone of operation, user, and extrinsic data.
29. The method of claim 28, employing a predefined protocol further based upon at least one of:
  - zones of operation;
  - type of equipment being employed;
  - equipment being monitored;
  - user proximity to the zone;
  - hierarchy of users within the zone;
  - context of the operating environment;
  - network conditions;
  - security;
  - security levels;
  - authentication; and,
  - priorities associated with various potential user actions.
30. The method of claim 17, further utilizing a data store to store at least one parameter.
31. The method of claim 17, further utilizing a data store to store at least one parameter interrogation query.

32. The method of claim 17, employing a history component that stores HMI renderings.
33. A system for rendering a human machine interface (HMI), comprising:
  - means for processing information relating to a current state of parameters in connection with a human machine interface (HMI);
  - means for automatically rendering a HMI to function in accordance with a predefined protocol.
34. The system of claim 33, employed in an industrial automation environment.
35. The system of claim 33, being a computer-implemented software application.
36. The system of claim 33, further comprising employing artificial intelligence techniques to facilitate processing parameters associated with an operating environment.
37. The system of claim 36, further comprising employing a classifier.
38. The system of claim 37, further comprising training the classifier explicitly.
39. The system of claim 37, further comprising training the classifier implicitly.
40. The system of claim 33, further comprising employing artificial intelligence techniques to facilitate rendering a HMI based at least upon a predefined protocol.

41. The system of claim 40, further comprising employing a classifier.
42. The system of claim 41, further comprising training the classifier explicitly.
43. The system of claim 41, further comprising training the classifier implicitly.
44. The system of claim 33, employing a predefined protocol based at least in part upon zone of operation, user, and extrinsic data.
45. The system of claim 44, employing a predefined protocol further based upon at least one of:
  - zones of operation;
  - type of equipment being employed;
  - equipment being monitored;
  - user proximity to the zone;
  - hierarchy of users within the zone;
  - context of the operating environment;
  - network conditions;
  - security;
  - security levels;
  - authentication; and,
  - priorities associated with various potential user actions.
46. The system of claim 33, further comprising utilizing a data store to store at least one parameter.
47. The system of claim 33, further comprising utilizing a data store to store at least one parameter interrogation query.

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48. The system of claim 33, further comprising employing a history component that stores HMI renderings.